REMARKS

This amendment is in response to the Examiner's Office Action dated 4/9/2004. Reconsideration of this application is respectfully requested in view of the foregoing amendment and the remarks that follow.

STATUS OF CLAIMS

Claims 1-6 and 12-16 are pending.

Claims 1-6 and 12-16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kalra (USP 5,953,506) in view of Horton (USP 5,805,203) and Yuan (5,821,986).

OVERVIEW OF CLAIMED INVENTION

The presently claimed invention provides a system and method for adaptively controlling a process for delivering video information via a video data distribution unit over a network to a plurality of data terminals. The video data distribution produces coded data by encoding source video signals based on performance level messages and error status messages received from each of the data terminals in the network receiving video distributions. A plurality of data terminals report performance level and an error status messages to a distribution unit when an error is detected in receiving or viewing the video distributions. Responsive to the messages provided by the plurality of data terminals, source video signals are encoded with a greater quantity of I-frames. Subsequently, each data terminal adaptively decodes the received video stream, independently of each other data terminal, based on its specific constraints, preferences, and requirements.

In the Claims

REJECTIONS UNDER U.S.C. 35 103(a)

With regards to independent claims 1, 13, 14, and 15, the Examiner cites Kalra as disclosing a video distribution control over a network comprising encoding source video signals based on performance level messages and error status messages received from a plurality of data terminals to which video is distributed. The Kalra reference appears to be included for its discussion of providing several sub-band streams, that when combined, yield progressively higher video quality. Specifically, Kalra discloses a stream management module transmitting stream combinations based on a profile of a receiving multimedia device. However, the present invention is distinguished in that it provides the same, single audio/video/digital data stream to every recipient; **it is the job of the recipient, in the present invention, to selectively decode the single provided stream to achieve the necessary resolution**. However, in the Kalra reference, as cited by the examiner in column 3, line 66 through column 4, line 32 and in column 5, line 4 through column 6, line 53, the disclosed stream management module must not only store and update profiles on some periodic interval, *but must also selectively combine and transmit digital sub-band streams for each and every single multimedia device, an operation that is performed individually for each device.*

The system and method of the present invention is further distinguished in that **changes in an end user's constraints (e.g., network bandwidth, CPU processing power, CPU load, application preference) are applied, in real-time, in decoding the incoming video data stream**. On the other hand, the Kalra reference discloses a profile which is sent to the stream management module by the multimedia device and updated at periodic intervals, as cited by the Examiner in figures 15 and 16 and in column 8, lines 33 through 65. Thus, as taught and cited in the Kalra reference, there exists the possibility that a user will be unable to display the received

combination of sub-band streams because its constraints have changed and its profile has not yet been updated to the stream management module, which controls the encoding, combination, and transmission of the video data streams.

Furthermore, the Examiner-cited passages in column 14, line 34 through column 19, line 64 simply recite the breakdown of the "picture" frames (e.g., I, P, and B frames) into additive, sub-band streams, of which combination yields increased spatial resolution. In fact, Kalra directly states that, for adjusting and transmitting video signals on the basis of spatial resolution, the stream management module determines *"which adaptive frames within the module should be transmitted" – not which frame should be transmitted*, as in the case of the present invention. Performance evaluation information along with error status message obtained from the end user provide the transmission server in the present invention, the necessary information to determine whether to force intra-frame coding or not to force intra-frame coding. In sum, Kalra neither teaches nor suggests a method for providing intra-frame coded insertions based on performance evaluation and error message statuses obtained from an end user. Additionally, with regards to the Horton reference, the Examiner appears to have cited this reference purely for its discussion of adjusting transmissions based on the network connection parameters stored for each receiver receiving video distributions; the transmitting server in Horton optimizes the stream transmission based on constraints as enumerated by the connection parameters table. Horton makes no mention, suggestion, or teaching of utilizing CPU constraints or error messages sent from the receiver of the digital transmission, nor is there a suggestion that transmission adjustments based on network connection parameters include or imply the insertion of additional I-frame for selective decoding, at each independent receiver.

With regards to the Yuan reference, applicants contend that Yuan fails to teach the insertion of intraframe-coded frames based on error status messages from the recipients. The

Examiner states that Yuan discloses a system in which errors are monitored, and if errors past a certain threshold are detected, the macroblocks are forced to be coded with intra-frame coding. The Examiner indicates column 16, line 17 through column 17, line 7 of the Yuan reference, a closer reading of this passage *indicates that macroblocks are coded intraframe in response to particular conditions of a counter variable Cb that is incremented by each frame, regardless of errors.* The error referred to Yuan is distinctly different from error status messages of the present invention; error mentioned in Yuan is prediction error of video coding terminology, whereas the present invention describes error messages on the receiver end, in specific in receiving and displaying video distributions, as stated in the claims, "error status messages indicat[ing] presence of such a recipient that is experiencing intolerably frequent errors." As is shown by the arguments for Kalra, Horton, and Yuan, none of these references either on their own or in any combination, teach or suggest the elements of the presently claimed invention.

With regards to the remaining dependant claims 2, 3, 4, 5, 6, 12, and 16, the above-mentioned arguments equally apply in that they inherit the limitations of the independent claims upon which they depend.

SUMMARY

As has been detailed above, none of the references, cited or applied, provide for the specific claimed details of applicants' presently claimed invention, nor renders them obvious. It is believed that this case is in condition for allowance and reconsideration thereof and early issuance is respectfully requested.

A petition for extension of time has been filed with this amendment.

If it is felt that an interview would expedite prosecution of this application, please do not hesitate to contact applicants' representative at the below number.

Respectfully submitted,

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